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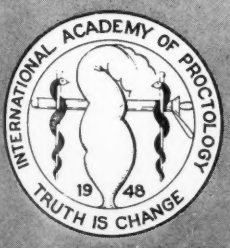

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THE AMERICAN JOURNAL OF
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A quarterly journal of Proctology and Allied Subjects

VOLUME 1 JUNE, 1950 NUMBER 2

CONSTIPATION*

(PART I)

SAMUEL WEISS, M.D., Sc.D., F.A.C.P.†
and
JEROME WEISS, M.D.**
New York, N. Y.

Constipation is a habit and not a disease!

The gastroenterologist is probably consulted more often about constipation than for any other complaint in his entire practice. This may be accounted for by the fact that the condition causes great concern on the part of the patient, who is apt to regard it as of a serious nature. While, in a certain proportion of instances, it may be an indication of a pathological condition in the gastrointestinal tract, in the greater number it is attributable to incorrect habits or to the patient's lack of understanding of his dietetic requirements.

The conception of what constitutes constipation varies in different individuals. The theory is generally accepted by the layman that an evacuation is required at least once a day to insure his well-being. Failing this, he becomes concerned about the lack of regularity and often proceeds to assist nature by taking laxatives or other purgatives.

It is important to ascertain what is normal for each individual. While in some persons the call for defecation may occur after every meal, in others every other day, twice a week or even longer intervals may constitute a state of normalcy. Hurst cites cases in which the bowels were regularly opened once a week or once in two weeks, without detriment to health, and in Leys' opinion, neither retardation of the feces in the rectum nor infrequency of evacuation for many days—even perhaps two or three weeks—will provoke symptoms or be ultimately harmful, provided they do not lead to actual impaction and—most especially—provided the individual is not convinced that the condition is of a serious nature. Leys refers to cases of habitual, infrequent evacuation up to twenty-eight days, in which no toxic absorption occurred.

*One of a series of lectures given to Graduate Students taking the course in General Medicine, Gastroenterology and Proctology.

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It should of course be realized that these are exceptional cases, and reference to them should by no means be construed as implying that harmful effects would not ensue in the average case of delayed evacuation.

Before delving into further discussion of the subject, it is essential to define the term "constipation".

The term *constipation* is generally regarded as signifying a condition in which bowel movements are either less frequent or of smaller quantity than is normal for the individual. The average weight of the normal stool is 150 grams (Horner). Small stools are apt to contain less water, depending upon the character of the diet and especially upon the quantity of cellulose consumed: a vegetable diet produces a larger quantity of feces than an animal diet.

Mechanism of the Digestive Tract:—Sound teeth, healthy buccal mucous membranes and tongue constitute the initial requirements for proper digestion. Following the entrance of food into the mouth, thorough mastication is an essential feature. Lack of this function through insufficient comminution places an extra burden on the digestive system by reducing salivary stimulation and decreasing alimentary secretion. Disturbances in secretion of the gastric juice affect the entire process of digestion, resulting in symptoms referable to the stomach and the rest of the gastrointestinal tract.

Following the passage of food through the esophagus, it reaches the stomach through the cardiac end. It then mixes with the gastric juice—the first stage of protein digestion. The gastric juice has another function—that of a germicide, destroying streptococci and preventing colon bacilli from entering the upper part of the small intestine.

The food remains in the stomach for a while and is cooled or warmed to the temperature of the body and then passed on, by vigorous churning movements in the antrum and broken down into smaller particles until it reaches a fluid stage. The rough or irritating particles of food had previously been coated with mucus, thus protecting the wall of the stomach.

Peristaltic action increases in intensity during the process of digestion. These waves increase in depth as they pass toward the pylorus, the pressure in the antrum being sufficiently great to squeeze the mixed chyme through the duodenum. The contents of the antrum is then forced back, and the process is repeated.

The pylorus is controlled by a sphincter which tends to relax it in the presence of acid in the duodenum, and to permit alkaline regurgitation; the sphincter also responds to peristaltic waves. During normal digestion the pylorus relaxes during the second hour after a meal, followed by regurgitation from the duodenum.

It may therefore be said that the healthy motility of the stomach depends upon peristalsis and upon certain mass contractions of the stomach. Also to be included is muscle activity, frequently referred to as *tone*. When the latter becomes defective, due to fatigue or faulty diet (as in Vitamin B deficiency), peristalsis and mass contractions become less effective.

Gastric secretion consists of three phases: the psychic phase, the gastric phase, and the intestinal phase. In the *psychic phase,* secretion follows the sight, aroma or pleasurable anticipation of food; in the *gastric phase,* secretion is caused by the presence of food in the stomach; and in the *intestinal phase,* stomach secretion is stimulated by amino acids, peptones and similar substances.

The juice of the first phase of secretion and that of the second phase differ. The former normally contains about 0.5 per cent of hydrochloric acid, while the latter is influenced by the acidity or alkalinity of the food ingested. The quantity of fluid and the intensity of the stimulus influence the pepsin content. Fats and fatty acids have been found by the writer to have a tendency to reduce gastric secretion and delay the passage of food in the stomach, whereas certain foods, such as vegetable extracts as well as water, tea or coffee taken with food, have the opposite effect. It will be helpful to keep these facts in mind in prescribing a diet for those who have a deficiency or excess of hydrochloric acid.

Gastric secretion may also be stimulated by various processes originating in the intestine; or by bacterial action on ingested food; or by chemical substances produced during the process of digestion.

The secretion of bile, like the secretion of pancreatic juice, is essential in the process of intestinal digestion, and a decrease in the flow or formation of hepatic bile may be one of the causes of constipation. Total exclusion of bile from the intestine has been found fatal, experimentally.

Bile has the following digestive actions: it increases the fat-splitting power of pancreatic lipase five or six fold; it dissolves fatty acids; it augments the action of trypsin on proteins; it supports the effect of diastase and rennin; it probably reduces peristalsis in the duodenum and accelerates it in the colon, and it makes possible the absorption of Vitamin K in the intestinal tract. Extensive animal experiments have shown that meats increase biliary excretion, but fluids have no effect on it or on its specific gravity.

Bile is now regarded not only as a secretion, but also as an important excretion. It approximates one-half or even more the amount of urinary excretion. A large amount of the material excreted through the liver—particularly choleic acids and pigment substances—is reabsorbed after it reaches the intestine through the biliary ducts.

Normally the usual mixed meal will have passed through the stomach within three or four hours and into the cecum in a semi-fluid state and then into the colon within six to nine hours, where it mixes with the residue from previous meals. Absorption of the water content in the colon is dependent upon the rate of peristalsis: if the rate is slow, the stool will be hard and dry, whereas if it is rapid, the stool will be soft or unformed. Acceleration of peristaltic action stimulates the evacuation of the contents of the colon into the rectum and finally to the expulsion of the feces.

Causes of Constipation

Despite the fact that constipation may be a most annoying condition, it is

not a disease *per se*. It may be caused by or be an accompanying symptom of one of the following conditions:

Delay or disregard of the call for defecation;
Dental defects or insufficient mastication;
Abuse of purgatives or enemas;
Dietetic errors or omissions;
Deficiency of minerals;
Lack of exercise;
Old age;
Congenital defects in infants;
Neurotic, psychiatric, psychoneurotic or emotional disturbances;
Pathologic state in the gastrointestinal or other systems;
Deficient secretion of the ductless glands;
Irritants in the intestines;
Poisons circulating in the blood;
Various diseases.

Delay or Disregard of the Call for Defecation:—This may start in childhood unless the parent places sufficient emphasis on the importance of immediately answering the call. Adults as well as children frequently allow too little time for the performance of this function, permitting a portion of the fecal substance to remain in the rectum.

Entry of the stool into the rectum is accompanied by a rise in intrarectal pressure. When the desire to defecate is disregarded, the rectum accommodates itself to the pressure or retrotransports the stool into the sigmoid. In either case further drying of the stool occurs.

Dental Defects or Insufficient Mastication:—Poor teeth or lack of sufficient teeth interfere with proper chewing of food. Undue rush at mealtime, accompanied by the bolting of food and insufficient mastication, leads to the swallowing of large clumps of food and may result in intestinal contraction and, finally, to enterospasm.

Abuse of Purgatives or Enemas:—These are frequent causes of constipation, particularly if taken over long periods of time.

Dietetic Errors or Omissions:—The diet should contain sufficient material, not only to nourish the body, but to provide a quantity of residual substance which will stimulate the action of the intestines. Diets which do not contain a quantity of indigestible fibre induce constipation. Included among this indigestible fibre—otherwise known as residue or roughage—are bran, oatmeal, the skins of vegetables and fruits, coarse vegetable fibre, figs, prunes, etc.

Lack of certain vitamins, especially those of Vitamin B-complex, also influences the motility of the intestines presumably by deranging the function and structure of the intestinal mucosa, musculature and nervous tissue.

Although a certain quantity of water is contained in some types of food, it does not provide the amount required for its proper metabolism. Water aids the digestive action of the saliva, and in addition it augments the flow of bile and pancreatic juice, and thus helps in better absorption of food. It is for these reasons that water should be taken into the system many times a day.

As previously pointed out, the quantity of *cellulose* inherent in the food influences the quantity of the feces, by affecting both the mechanical and chemical stimulation of the intestinal movements.

Vegetables and fruits contain a greater amount of cellulose than meat and therefore are important factors in the diet. Aside from adding to the weight of the feces, cellulose increases the quantity of water contained therein, thus preventing the expulsion of stools which are of hard and dry consistency. On a vegetable diet the amount of dry substance excreted daily is 75 gm. and 260 gm. of water, in contrast to a mixed diet, in which the quantities are 35 gm. and 100 gm. respectively.

Deficiency of Minerals:—Deficiency of certain minerals such as calcium and potassium in the diet may induce poor elimination by causing thinning and weakening of the intestinal walls.

Lack of Exercise:—It is a well-known fact that the physiological functions of the human organism are stimulated by exercise. With increased inhalation of oxygen and exhalation of carbonic acid, circulation is promoted and all processes within the body are advanced. Lack of exercise retards these functions, including muscular stimulation of the intestines, leading to constipation in many cases.

Old Age:—Defecation is more difficult in older persons for the following reasons: atonic dilatation and deficient peristalsis of the colon; atrophy of the muscles of the body; lack of exercise; improper mastication (due perhaps to poor dentition); and the bland character of the food chosen by older persons.

Congenital Defects in Infants:—Born with defects in the gastrointestinal system, constipation may be a source of annoyance throughout life. These defects include malformation, malposition or other abnormality of some portion of the intestinal canal, of the small intestines, of the colon, of the rectum, or of the anus. According to Osler there are instances in which the child is constipated from birth and might not have a natural movement for years, and yet thrive and develop.

Megacolon, Hirschsprung's disease, is a rare disturbance in which the lower bowel becomes dilated and elongated. Most victims are children.

Neurotic, Psychiatric, Psychoneurotic or Emotional Disturbances:—The authors are in agreement with those who believe constipation may, in some instances, be of nervous origin, leading to tension of all muscles of the body including those about the anus. Contraction of the sphincter of the anus may also cause constipation in hysterical or neurasthenic persons.

The fact that the usual activity of the movements of the stomach and intestines may be inhibited or stimulated by impulses from the central nervous system is not surprising when one realizes that the nerves of the stomach are derived from the sympathetic trunk, the splanchnic nerves and from the vagi; the nerves connect with two plexuses of anastomosing nerve trunks: the myenteric plexus of Auerbach, and Meissner's plexus. These impulses may originate in the brain or are the result of reflex action. Inhibition of these impulses leads to constipation, whereas the opposite effect, a diarrheal condition, is produced by stimulation.

Alexander and Menninger have observed a psychogenic constipation, not related to the spastic type, in individuals suffering from melancholia, persecutory delusions, defeatism and similar states. A group of 100 patients showing persecutory delusions, and 100 control cases studied in reference to their excremental habits showed an incidence of constipation in 72 per cent as contrasted with 26 per cent in the control group. These instances confirm their conclusion that "the frequent constipation of patients suffering from persecutory delusions is mainly conditioned by their conflict about anal sadistic tendencies which they deny and project". They state further that "their frequent deprecatory attitude and delusions about their food is another manifestation of their projection of their anal sadistic impulses".

Constipation in psychoneurotic and psychiatric individuals is attributable by Monat to a lesser extent to bad habits than as an escape from reality.

Prolonged overwork, worry or other emotional conditions, as well as shock may cause constipation by lowering the status of the nervous system.

Pathologic State in the Gastrointestinal or Other Systems:—This may include atony of the gastroenteric tract; inflammation of the bowel wall; atrophic catarrh of the enteric mucous membrane; weakness of the abdominal muscles due to obesity or repeated pregnancies; kinking of the intestines; certain types of peritonitis; absence or decreased amount of bile in various hepatic diseases; in acute infectious diseases; foreign bodies or other obstructions including strictures, tumors, malformations, diverticula, fistulæ, malignant growths or large masses of scybala.

Deficient Secretion of Ductless Glands:—Since secretion of certain hormones helps maintain the normal activity of the bowels, an insufficient quantity of these (thyroid, suprarenal, pituitary) may also be a causal factor in constipation.

Irritants in the Intestines:—These may include lead, ascarides, coarse particles of food, pepper, mustard, or hard fecal substances. The constipation is usually of the spastic type (enterospasm).

Poisons Circulating in the Blood:—Nicotine and caffeine may cause constipation. Habitual or excessive smoking of cigars or cigarettes may result in this condition in some individuals. When of the spastic type, Hurst believes it probably is the result of the paralyzing action on the sympathetic ganglion. He states that "this results in the abolition of the tonic inhibition exerted by the splanchnic nerves on the intestines by means of which their motor activity is regulated, so that the normal intestinal stimulants give rise to enterospasm. When the constipation is associated with colic, the vagus is probably also irritated, and irregular intestinal contractions are produced." Excessive indulgence in coffee or tea, especially in nervous persons, may be a causative factor in constipation.

Various Diseases:—Anemia, neurasthenia, and infectious diseases such as typhoid fever and cholera, in addition to chronic affections of the gastrointestinal system, may cause or be accompanied by a constipated state.

Symptomatology

Constipation may be either an effect or a cause of various disorders. Again, both the constipation and the accompanying symptoms may be attributable to a common underlying pathological state. In many cases, however, constipation may continue for years without causing any apparent derangement of the system.

One of the first symptoms noted may be an offensive odor of the breath; and the patient's tongue is apt to be coated. Infrequency of, or difficulty in evacuation are among the most common complaints presented. In addition there may be anorexia, dyspepsia, a feeling of fullness in the stomach, flatulence, depression, headache, vertigo, or a combination of several of these symptoms. Conditions such as impaction, hemorrhoids and fissures—often excruciatingly painful—demand immediate attention in persons suffering from difficulty or inability in the performance of defecation.

Paradoxical as it may seem, constipation may result from the use of purgatives. Many persons are habitual users of cathartics without realizing that they may be injurious. Senna may be included among these; it may be taken occasionally, but if taken frequently it is irritating. Castor oil, mineral oil, agar-agar and psyllium seed may, if taken regularly, gradually reverse the beneficial effect originally obtained. Too frequent use of enemata may also be disastrous.

A divergence of opinion still exists regarding the manner in which the symptoms of constipation are produced. Retention of fecal matter leading to toxic absorption is among the theories promulgated. While this theory might apply in some instances, it would certainly not do so in persons in whom constipation had existed over a prolonged period and who have experienced no symptoms of intoxication. Hurst suggests a possible development of a partial immunity to intestinal toxins in some individuals suffering from constipation.

Constipation due to mechanical causes constitutes another theory. Among the causes of inability to evacuate the bowels in the usual length of time, are according to Horner: weakness of the muscles of the bowel, weakness of the voluntary muscles of defecation, an abnormal physical state of the contents of the bowel, and mechanical obstruction of the lumen of the bowel.

Chronic constipation may be produced through the nerve centers, by inhibition of peristalsis. This may occur in chronic diseases of the brain or chronic affections of the spinal cord, in chronic forms of insanity or in cerebral disease caused by lead poisoning.

The most severe disturbances of defecation, according to Alvarez are probably produced by destruction of the afferent nerves of the rectum, since this causes inability of the bowel to sense the accumulation of fecal matter.

As previously stated, many conditions may occur coincidently with constipation, and the physician must determine which is the original ailment, which is the consequent disorder, whether each is due to a common cause or whether each has occurred independently of the other.

Disorders of the Nervous System:—Included among the disorders of the nervous system which may accompany constipation, in addition to those previously referred to (headache, depression, vertigo), are neuralgia, mental dullness, insomnia, palpitation of the heart, tumor of the spinal cord and epilepsy.

Disorders of the Gastrointestinal System frequently associated with constipation are: vomiting, gastralgia, atony of the stomach, intestinal obstruction, kinking of the intestines, diverticula of the intestines, volvulus of the colon, typhilitis, pyloric obstruction, colitis, dilatation of the cecum, gastric or duodenal ulcer. A history of constipation is usually present in many cases of appendicitis; and in cancer of the colon constipation may be one of the first symptoms, especially in persons of middle age. Colonic constipation may also be found in addition to poor abdominal and pelvic musculature. Hyperirritable colon (distal half), especially in the rectosigmoid or sigmoid-descending colon regions, may show spasmodic annular constrictions, with strong peristaltic waves above and narrowed lumen, while the first portion of the colon may be dilated and hypotonic. In Hirschsprung's disease (megacolon) there is a history of constipation from birth, usually ending fatally before about the eighth year. One of the present writer's patients, now in the mid-forties, although operated upon when he was eight years of age, is still constipated.

Diseases of the Urinary System:—Nephritis, pyelitis and pyelonephritis are frequently accompanied by constipation.

Diseases of the Liver and Gallbladder:—These may include torpid liver, chronic cholecystitis, catarrhal jaundice, cirrhosis, etc.

Disorders of the Rectum and Anus:—Conditions closely associated with constipation, in addition to those previously mentioned (impaction, fissures or cryptitis, hemorrhoids) are stricture of the rectum and anus, anal ulcer, pruritus ani, fecal tumors. Cancer of the rectum is one of the most common causes of constipation.

Rectal constipation is recognized when the examining finger finds a substantial amount of feces in the rectum. Fluid is much more readily absorbed from the rectum than from the descending colon, and in these patients anticonstipation diets and drugs have little effect.

The presence of a rectocele may also act as a factor in bowel movement.

Disorders of Metabolism:—Constipation is invariably present in diabetes; it is especially fraught with danger in young persons. Failure to gain weight is often attributable to constipation, inasmuch as the desire for food is decreased in those whose elimination is delayed or difficult. Hypothyroid states are often accompanied by constipation. In these patients small doses of thyroid may change the entire picture.

Diseases of the Blood:—Anemia and chlorosis are usually associated with constipation. Chlorosis is a disease occurring in young girls, especially in those who do not obtain sufficient fresh air or exercise and who eat improper food. Hurst states that "it is now generally recognized that constipation is a result and not

the cause of chlorosis, as it is cured when the chlorosis is effectively treated, whereas the reverse is not the case."

Allergic Symptoms:—The association of constipation and allergic manifestations is not an unusual occurrence. In some instances constipation is believed to have an allergic basis. The reverse may also be true, since control of the constipation frequently brings simultaneous relief of the allergic disturbances. This has been noted especially in cases of asthma. The significance of constipation, in addition to other gastrointestinal disturbances, has also been pointed out in neurodermatitis.

Diagnosis

The initial procedure in the diagnosis of constipation consists in obtaining a detailed history from the patient. It is important to ascertain the length of time the condition has been present. This will tend to indicate whether it might be of congenital origin; it will also indicate whether the disorder is of an acute or chronic nature. The patient should also be questioned concerning the interval elapsing between evacuations, and whether the latter have been or still are accompanied by pain. The nature of the feces—whether scanty or profuse, the consistency (hard or fluid), the color (black, brown or clay-colored), or whether the presence of blood or mucus was observed in the stool. The nature of the daily diet is another consideration which may have an important bearing on the diagnosis.

As previously stated, the quantity of fluid consumed in the average daily diet either in the food itself or in the habitual intake of water between meals, is an essential factor in this connection. Not only do fluids—and especially a sufficient quantity of water—dilute the intestinal contents, they also stimulate peristalsis, thereby promoting evacuation. Intestinal stimulation is also dependent upon the amount of indigestible solid material—or roughage—in the food and upon the quantity of cellulose contained therein. In other words a sufficient amount of vegetables is essential as they also contain organic acids or sugar.

The amount of fat in the diet, as well as the mineral content—especially potassium and calcium—are other features requiring consideration. While the presence of vitamins may not directly influence peristalsis, their absence (Vitamin B in particular) alters intestinal motility, probably by deranging the structure of the intestinal mucosa, musculature and nervous tissue.

Before directing attention to the inspection of the abdominal organs and the gastrointestinal tract, examination of the oral cavity, and particularly of the dentition, should be undertaken. Lack of molars especially will hamper proper mastication. Disturbances in the esophagus may also interfere with digestion and proper swallowing of the bolus and its conveyance to the stomach. For the diagnosis of these conditions including strictures, foreign bodies, deformities, ulcers, new growths, the esophagoscope and fluoroscope will be found of value.

While diseases of the esophagus are of frequent occurrence, it should be borne in mind that neoplasms in this location may progress unaccompanied by symp-

toms. Without resort to the aids just mentioned, many cases of acute or chronic esophageal disease may be incorrectly diagnosed as "indigestion".

The patient should be asked to undress completely and a general examination of the abdomen in both the erect and horizontal positions should include the following procedures: inspection, palpation, percussion, and auscultation.

Inspection should include attention to the surface of the abdominal wall, general contour of the abdomen (distention, retraction), the presence of visible patterns and visible movements, localized projections and depressions, and evidences of visceroptosis.

Palpation is the most useful method of abdominal diagnosis. It provides information especially in regard to the state of the abdominal wall, the size, form, position and consistency of the abdominal organs, abdominal pain or tenderness, and abdominal tumors and resistances.

Intravenous injection of nembutal (one and one-half grain) will frequently facilitate the examination and produce anesthesia in a comparatively short time. It is especially valuable in patients with painless jaundice due to pancreatic carcinoma; here the distended gallbladder may be palpated by this procedure. Palpation furnishes reliable information not only regarding the condition of the liver, but the enlarged, hardened pancreas also becomes distinctly palpable.

Deep palpation may be difficult or impossible because of obesity; because of excessive distention of the abdominal wall by gases or fluids in the digestive tube, urinary bladder or peritoneal cavity; or because of muscle spasm, especially of the recti. If the intestine is distended by gas or feces, it should first be emptied by giving a warm enema. In the presence of ascites, paracentesis is indicated before palpation is employed.

Each organ is palpated separately, first by gliding palpation and then by deep palpation, the latter to excite a fluctuation wave in ascites, or to reach an organ or tumor situated beneath fluid (the edge of the liver in ascites). Succussion sounds due to fluid in the stomach or intestines may also be elicited.

In the presence of pain it is important to determine its exact location in the abdomen. It may be spontaneous or it may occur only on palpation. The time and appearance of pain and its relation to food intake may have a great bearing on the diagnosis of gastric and duodenal affections, especially ulcer.

Colicky pain sets in suddenly, then gradually increases in intensity and usually decreases slowly. Pains of this type are generally due to spasmodic contraction of the structures containing smooth muscle, such as the gallbladder or urinary bladder around a stone, ureter, pylorus and intestine.

A local pain on palpation in the linea alba may point to hernia of the linea alba or a gastric ulcer. Pain in the region of the gallbladder may indicate cholecystitis or gallstones; and pain on pressure in the region of McBurney's point or below it may suggest appendicitis.

Diffuse tenderness elicited on palpation may be associated with intestinal catarrh; and a circumscribed painful area may point to local or circumscribed peritoneal irritation.

An abnormal mass in the abdomen should be carefully palpated to establish its exact position, size, shape and consistency, its mobility on external pressure, respiration and distention of the stomach or intestines with air, its sensitiveness to pressure and its relation to neighboring organs. Certain manifestations—so-called sham tumors and phantom tumors—may simulate abdominal tumors. The former may consist of a mass of fat, an area of abdominal muscle in contraction, a loop of intestine or a portion of another normal organ. A palpable aorta, a palpable pylorus and fecal masses are the principal sham tumors encountered.

Phantom tumors usually occur in hysterical or extremely nervous persons.

Retained fecal masses often simulate tumors. They are usually situated in the cecum or sigmoid; more rarely they lie in the transverse or descending colon. Such a mass, felt just beyond the hepatic flexure in the right hypochondrium, may simulate a kidney. If the finger is pressed slowly into a fecal mass, so that the intestinal mucous membrane sticks to it, and the finger is then gradually withdrawn, one may possibly be able to perceive a loosening of the mucous membrane from the feces.

Fecal masses can usually be removed by purgation or by enema although, in the presence of a diverticulum, it is difficult. Such masses are usually associated with chronic constipation but may be accompanied by diarrhea. In the latter instance the fecal mass is located in a diverticulum or if it lies in the lumen, it is canalized. Roentgen examination is helpful in cases of chronic constipation with fecal impaction.

In a true abdominal tumor palpation may determine, first, its topographic site, then its continuity with neighboring organs or masses, its relation to the stomach and intestine and its mobility. Its situation can often be determined by noting its periphery when the stomach or colon is distended with air or carbon dioxide.

Percussion may be carried out with the patient in the recumbent position, with the abdominal walls relaxed. As a control, it may be accomplished with the patient in the lateral or in the knee-elbow position. Certain organs—the pancreas, the ovaries, the uterus—are normally not accessible to percussion. The solid organs like the liver, spleen and distended urinary bladder, can normally be delimited by light percussion from gas-containing parts (stomach, intestines).

Auscultation:—For the evaluation of abdominal sounds a stethoscope may yield valuable information. Gurgling may be noted in the normal peristaltic movements of the intestines; in nervous persons they may cause loud rumbling and splashing of the contents.

With incomplete obstruction of the small intestine due to peritoneal adhesions, etc., passage of the intestinal contents, by the obstruction, is usually attended by colicky pain. If the stethoscope is applied to the abdominal wall over the site of the obstruction, loud rumbling noises are heard, culminating in a squirting sound. Relief from pain is experienced at that instant. The squirting sound of fluid forced through the point of stenosis is characteristic.

The various abdominal conditions that may have to be differentiated are: peptic ulcer, pyelitis, cholecystitis, appendicitis, acute pancreatitis, perforated ulcer, early intestinal obstruction, acute gastroenteritis, coronary thrombosis and lead colic. There may be severe abdominal pain, vomiting, muscular rigidity, shock, fever and leucocytosis.

Roentgenology and Gastroscopy:—Following the administration of a barium meal, the form and position of the stomach can be studied roentgenologically. Observations made by means of gastroscopy and roentgenography will aid in differentiating nervous dyspepsias, hypersecretion, gastritis, ulcer and carcinoma.

Proctoscopy, Sigmoidoscopy, Gastrophotography, and Peritoneoscopy:—These may also be employed in the diagnosis.

Examination of the Feces:—This is one of the most important procedures in cases of constipation. Examination of the feces *macroscopically* will reveal the consistency, color and odor of the stool, the odor being a guide in regard to the occurrence of putrefaction. *Microscopic examination* will furnish information concerning the presence of blood, pus, mucus or particles of undigested food. If colitis is suspected, a *bacteriological examination* should be undertaken, to determine the presence or absence of organisms such as tubercle bacilli, pneumococci, streptococci, ameba, and other pathogenic organisms.

In conclusion, it is important to remember that symptoms manifested in the gastrointestinal tract may be disturbances occurring in other organs. Included among these are diseases of the nervous system, glandular disturbances, diseases of the genital organs, respiratory disorders, circulatory disorders, etc.

(*To be continued*)

CHANGING CONCEPTS IN THE CARE OF PROCTOLOGIC PATIENTS*

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This "paper" deals, very briefly, and, in a rather general fashion, with the principal trends in the treatment of patients suffering from diseases of the colon and rectum—concepts as reflected in and governed by the development of proctology as a "specialty". It deals, more purposefully with present-day concepts; the factors and principles shaping them, and a brief evaluation of them. It concludes with a few remarks directed to the future.

The literal translation of the word "proctology" is "discourse on the anus". It is very interesting to note that the "free" translation of the word and the interpretation of it (that is, the definition of the special field in medicine which it signifies), as well as some of the so-called "modern" rectocolon surgical technics, are *not* recently defined concepts, as many people, (among them many members of the medical profession, general surgeons included), believe, but concepts dating back anywhere from fifty to over one hundred years.

In the Constitution of the American Proctologic Society—which was founded in 1899, proctology was defined as the "study, diagnosis, and treatment of diseases of the anus, rectum and colon". As you know, this Society was founded by Dr. Joseph Mathews, who opened his office in Louisville in 1888 and limited his practice to rectal surgery. He is considered to be the *first* physician in America to "specialize" in this field. In passing, I might mention that one of Dr. Mathews' great contributions was the conception—which he continually stressed in his teaching—of the importance of the digital examination of the rectum in the diagnosis of rectal pathology. Even now, over sixty years later, in spite of all the scientific inventions and modern medical equipment, no procedure is as important, or as accurate, in the diagnosis of carcinoma of the rectum.

The surgical technic of "primary anastomosis after resection", for cancer of the colon—a procedure favored by one "modern school of thought"—was originated and successfully performed by a Frenchman, Jean Francois Reybard in 1833. Present-day technic is greatly modified and improved but the basic concept is the same.

Likewise, resection of the rectum for cancer through the perineal approach, with or without preserving the sphincter—a favorite procedure (with many variations, of course), of many prominent present-day surgeons, had its beginning with Jacques Lisfranc, a Parisian surgeon, in 1826, when he did a simple amputation of the lower rectum. Modern technics employing this principle had their conception 123 years ago.

Naturally, through the years, a certain degree of standardization in the diagnosis and treatment of proctologic diseases has evolved. The conception of the

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basic principles involved in these procedures is generally credited to Frederick Salmon, who established the first hospital for the treatment of diseases of the rectum. It was a room at 11 Aldergate Street, London, England and was named "The Infirmary for the Relief of the Poor Afflicted with Fistula and other Diseases of the Rectum". His conceptions of "Proctologic Care" were incorporated in the first text-book on proctology to be published. It was entitled a "Practical Treatise on Stricture of the Rectum", published in London in 1828. From this humble beginning, has developed the specialty of proctology as it is today. It is only recently that this specialty has begun to grow and be recognized and attain its rightful place alongside the other surgical specialties which have long since been established. This tardy arrival can be attributed *mainly to the woeful neglect,* and *willful ignorance* of the tremendous importance of this field in itself and its fundamental relation to and influence upon every other field of medicine by those who should have been the first to realize its value—the general surgeons. To quote Dr. Harry Bacon, "that most important point of all, the close relationship of proctologic syndromes to the entire physical picture, both in their effect on other existing pathology and vice versa, is either misunderstood or insufficiently emphasized". No doubt, this lack of conception of the importance of this field of surgery was, in many ways, due to the aversion and the repugnance associated with it in the minds of the majority of men. However, the establishment of the sections on Gastroenterology and Proctology in the American Medical Association in 1917; the ever-increasing literature on the subject; the addition and expansion of the proctological services in the hospitals; the increase in number of surgeons specializing; the establishment of the International Academy of Proctology by our friend, Dr. Alfred Cantor; and, most important of all, the recognition and appreciation being given this specialty by the laity as a whole, attest to its growth and preeminent position in the field of medicine.

Another present-day proctological procedure that was neglected for years by the "Profession", and which has now been revived, is the "injection treatment". This form of treatment was conceived in 1871 by Mitchell, who was at the time practicing in Colindale, Illinois. His formula—carbolic acid in two parts of olive oil—was sold by him, and, as a result, the country was overrun with itinerants and charlatans attempting to treat every form of rectal trouble. As a result of this abuse, the procedure, naturally, fell into disrepute very rapidly with the "Profession". It has finally regained its rightful place in the proctological armamentarium and is a very valuable adjunct, when used *only* in those cases where it is indicated. Dr. Alfred Cantor once made a statement in one of his treatises—a statement which I should like to quote—as follows: "The physician who limits himself to injection therapy is an 'injection proctologist' and not an 'ambulatory proctologist'. This is an important distinction for the patient. If he is examined by an injection proctologist, too often the therapy is based upon the specialty of the physician and not upon the needs of the patient".

Having traced some of the current so-called "modern" conceptions of proctologic treatments to their origin, I should like to mention some of the factors which have played a large part in the tremendous development of surgery, particularly in the field of proctology, and which have resulted in the revival and great improvement of those old forms of treatment which had to be abandoned in the past due to the high mortality rate resulting, mainly, from the complications of peritonitis.

The two most significant early contributions were (1) the discovery of anesthesia in 1842 and (2) the principles of antisepsis and asepsis as formulated by Lister in 1867. Another important contribution was made by Halstead—the proof of the necessity of including the submucous layer of the intestinal wall in the suture thereof. As a result, great improvement in surgical technic followed.

Operations for cancer of the rectum, aiming to provide a perineal anus, with or without preservation of the sphincter, were devised by Verneuill (1873), Kraske (1885) and Hochenegg (1888). Von Volkman's operation, a combined abdominoperineal procedure, was devised in 1878. This procedure was perfected and expanded by Miles in 1908. Today, opinion is divided on the preferred procedure for this condition. One "school" composed of those who—objecting to the colostomy on psychological, social and economic grounds—prefer technics based on the pro-Miles principles; another "school" is made up of those who believe a more complete excision made possible by the colostomy far outweighs its disadvantages. It is my opinion that the procedure should be based on the individual and what is best for him at the time.

In 1892, Block devised a multiple stage operation for cancer of the colon. Paul, and later Mikulicz, in 1902, popularized the procedure. Since then, many improvements and modifications have been made. In opposition to this procedure are many men who favor primary anastomosis following resection, whenever possible. The arguments are essentially the same as in the case of cancer of the rectum and, in my opinion, the same principle should be followed.

Making their contribution to the advancement of proctology, in addition to the improved surgical technics, are: the agents developed to control and combat infection, such as penicillin and the sulfonamides; new and improved suture materials; and the anesthetic agents, (including the oil-soluble preparations), and their technics of administration—an example of which is "continuous spinal".

A better understanding of the physiopathologic principles underlying surgical trauma, has resulted in the devising of various procedures to prevent and control the respiratory, circulatory, gastrointestinal and wound complications of such. The increased knowledge of the basic physiologic principles involved in the natural body functions, has resulted in better control of the fluid and electrolyte balance, the use of whole blood transfusions and certain substitutes, and the development and use of parenteral amino acid and vitamin preparations as a means of controlling dehydration and nutritional deficiencies.

Recently, Leithauser has advocated "a method of surgical management designed, to minimize the morbidity associated with surgery, to prevent postoperative complications, and to promote rapid recovery". The details have been devised and developed on the basic concept that the operation, and the procedures used with it, should interfere as little as possible with the natural functions of the body. This principle of surgical management is known as "Early Ambulation". You are all familiar with this "new" form of treatment. Yet, this is just another recent affirmation of an old concept, one which was originated in this country by Emil Ries of Chicago, in 1899. According to Leithauser,—"The practices advocated, far from representing a 'dangerous' departure, increase the safety and comfort and well-being of the surgical patient, and save him both time and expense."

Today, in that portion of the proctological field dealing with cases referred to as "major", a very active application of this principle is impossible, due to the limitation of present-day surgical procedures—technics which do not fit into the anatomic and general pattern of "early ambulation" as formulated. However, in the other portion which include the more common rectal complaints—often referred to as "minor" even though they compose, by far, the major number of cases (and which I am sure were considered "major" by the patients themselves —if not by the physicians—in the not-too-distant past), it finds very happy expression.

And so, modern proctology, in this aspect, based on the observance of all the fundamental, surgical and medical principles, and enlightened by the concepts of "early ambulation"—with all the virtues it possesses—is now known as "Ambulatory Proctology"—a very aptly descriptive title.

At this point I should like to quote a few excerpts of Dr. Cantor's excellent book, "Ambulatory Proctology". They define and "state the case", so to speak, in behalf of this concept of treatment much better than anything I can say on the subject. "Ambulatory Proctology is the diagnosis and treatment of diseases of the anus, rectum and sigmoid bowel without confining the patient to bed. The treatment may be medical or surgical, conservative or radical. If the patient is not confined to bed that treatment must be defined as ambulatory". "Ambulatory proctology is not synonymous wth the injection treatment of hemorrhoids". ". . . . if the proctologist's office is well equipped, with operating table, sterilizers, complete surgical instrument sets, appropriate anesthetic apparatus, and adequate assistance, that office is actually an operating room. Under such circumstances 'office surgery' could include major surgical procedures. If the technic employed is such that the patient may, without undue risk, leave the office after the operation, that operation is ambulatory." "The age of the patient, the indication for treatment, whether bleeding, prolapse or pain, the general condition of the patient, his economic circumstances, his mental attitude toward hospitalization, surgery, et cetera, are all factors in the final determination of the mode of therapy. Thus, the proctologist should be trained and equipped for either ambulatory or confining proctology."

It may be stated here, parenthetically, that, not only, the civilian population is wont to gain from this type of treatment, when indicated, but our military personnel as well. My own personal experience in the past war, (and I'm sure many of you know what I mean), as well as the literature on the subject attests to the lack of any clear-cut, concise concept or practice of modern proctological treatment. The military services would do well to give this form of treatment thorough consideration—for the sake of the "man", as well as the public!

In closing let me remind you that we all share the challenge of these new concepts in the care of proctologic patients,—to emphasize the many virtues and truths therein. Here is the opportunity, not only to increase the prestige of the specialty of proctology in the eyes of the medical profession, but to demonstrate its value and necessity to a public—rather wary, (due to attitudes based on the unhappy experiences of many proctological patients in the past)—but a public badly in need of assistance and which is very much willing to be shown.

RECTAL CONDITIONS IN THE AGED*

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Introduction

Statisticians have recognized for some time that the proportion of persons over the age of sixty was increasing in relation to the younger age groups. In 1940 it was estimated that 12 per cent of the population was sixty-five years and over, and by 1970 it is expected to reach 20 per cent.

On the basis of the psychology of the aged, with death hovering in the unknown near future, the feeling of hopelessness is more firmly fixed. The mental reaction to pain, weakness and other bodily change is much more realistic. Perhaps more often than we realize the idea of the preservation of life represents the daily thinking of these persons. Therefore, when diagnosing and treating conditions of the rectum, as well as those of other regions, it is important to keep these factors in mind. A misstatement or a few unguarded words can often bring tragic results.

A history taken carefully brings its rewards. The complaints are likely to be those of pruritus, bleeding, pain, protrusion, and discharge. Too often the local complaints are due to some generalized condition. For example, the frequent complaint of itching of the rectum requires careful questioning. The history often will show that the elderly patient, who frequently has either false, decayed, or no teeth, subsists on a poorly balanced diet. Where he formerly ate food that "stuck to his ribs", such as meat and vegetables, his diet now is perhaps soft or liquid, with highly seasoned soups his main dish.

Proctologists sometimes work wonders in some rectal conditions by simply eliminating spices and seasonings from the diet.

One elderly individual was relieved of his anorectal itching, when medication had failed, by eliciting a history of his sitting, part of the day, on an artificial leather chair in a warm room. Changing the type of chair immediately cleared up his complaints. It is important to know if his home has an indoor toilet. Has he or any members of his family had worms? Does he spend much more time than before just sitting around? What of his mental attitude?

After a careful history, and with proper respect to the individual's sense of modesty, a thorough and gentle examination will bring its rewards. The fear of suffering pain too often prevents those most in need from seeking the proctologist. Word of mouth from one elderly person to another that the doctor's examination was almost painless will bring more patients to the office with resultant better medical care for those that need it most.

During the examination the patient should be relaxed. Confidence in the proctologist plays an important role. Palpation should be careful and thorough. The

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lighting for exterior surfaces as well as for the instruments to be inserted internally should be of the best. A poor visual field can be tragic. The insertion of instruments into the rectum should be slow and careful so as to avoid traumatization. Anything suspicious of malignancy should be biopsied and immediately placed in formalin.

With completion of the examination and diagnosis, it is best to keep in mind the age, and general condition of the individual before treatment is instituted. The ability to withstand surgery and medication sometimes decreases rapidly with the increase in age.

Clinical Pathology

As indicated, pruritus ani occurs frequently in elderly patients. Indeed, the incidence of pruritus ani increases rapidly as the patient's age increases. Sometimes this is due to difficulty in control of the sphincter mechanism. Thus, incontinence of the elderly male patient, involving the anal sphincters, or of the female patient, involving either the anal musculature or bladder control, with senile dribbling of urine, may be a factor in pruritic patients.

As the tissues about the rectum become more relaxed with advancing years, there is an increasing tendency toward eversion of the mucosa with defecation. Thus, the perianal area is more frequently soiled and is kept clean with greater difficulty. These patients not only soil more readily, but are often more careless in their toilet. Thus, the area is subjected to fecal matter and the resultant irritation of such lack of cleanliness, as the age of the patient increases.

With this relaxation of tissues the tendency toward the development of hemorrhoids, prolapse and procidentia is increased. Indeed, the incidence of procidentia in the aged patient is particularly high.

Oxyuriasis infestation seems to be a disease of both infancy and old age. However, it may occur in any of the intervening age groups. Carelessness of habit is probably the major reason for the increased incidence of oxyuriasis in the elderly patient, as it is with the child.

Other forms of parasitic intestinal infestations do not seem to be particularly increased in the elderly patient. However, this may vary with regional statistics.

Constipation is a major source of difficulty in the elderly patient. In these cases atonic constipation is the most frequent form. Obviously this is due to a loss of muscle tone throughout the colon.

With aging, the incidence of tumors, both benign and malignant, increases. Little need be said about this statistical fact. We are all well aware of the increasing frequency of malignancy of the rectum as the patient advances in years. Indeed, the statistical increase in malignancy generally is often interpreted in terms of the increasing tendency toward longevity of our general population.

Therapy

Therapy in the aged patient will not differ extensively from that of the younger patient. In all cases it is important that the pathology be removed. The

elderly patient will often withstand surgery extremely well. Of course, every effort should be made to reduce both psychological and physiologic trauma during surgery.

Early ambulation after proctologic surgery, as it has proved to be after major surgery, is an important adjunct. In the elderly patient we must be particularly aware of the tendency toward pulmonary atelectasis and postoperative pneumonia. Hypostatic pneumonia is very frequent in these cases.

The tendency toward thromboembolic phenomena or silent phlebothrombosis and thrombophlebitis is great.

The elderly patient also has a considerable tendency toward genitourinary complication wth acute retention, cystitis, and ascending pyelonephritis.

It is not infrequent to find bizarre gastrointestinal upsets and symptoms relating to a hypoproteinemic state, in some cases extending to hypomotility and ileus.

Thus, the importance of minimal bed rest and early ambulation becomes evident. By such early postoperative rising, diaphragmatic excursion is improved, and we avoid hypoventilation and its sequellae. Excessive mucus is not permitted to pool in the bronchial tree. Circulation is much improved, and the tendency toward vascular complications is practically eliminated. Indeed, all the other complications above outlined may be minimized or completely eliminated by early walking.

The treatment of constipation in the elderly patient does not differ greatly from that of the younger individual. In addition to careful attention to diet, and particularly the intake of large quantities of fruits and vegetables, and fruit juices, these patients may require occasional or frequent enemas. Instillation of mineral oil, with retention overnight, is often helpful in these cases.

Conclusions

A particularly careful history is essential in evaluating complaints of aged patients. Pruritus ani, hemorrhoids, prolapse and procidentia, oxyuriasis, atonic constipation, and benign and malignant tumors, increase in frequency during advancing years.

Therapy of the elderly patient, particularly during the postoperative period, must be carefully managed. Early ambulation after proctologic surgery is of particular importance in avoiding pulmonary and vascular complications. Early rising is also of particular importance in preventing genitourinary and gastrointestinal complications.

SIGMOIDITIS

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Chronic sigmoiditis is a common human disorder and one that is rarely diagnosed and usually inefficiently treated. Material published on the condition is sparse and not instructive as to the etiology, symptomatology, and pathology of the condition. Following up the article that was written on the subject in the New York State Journal of Medicine, April 15, 1945, this presentation adds to what was published then.

The sigmoid, or pelvic colon, is the narrowest and most moveable part of the large bowel. Held in place by a varying length of mesosigmoid, its main function is that of collecting feces for ejection. By extension it is subject to the pathologies of the colon and rectum, being more susceptible to those of the colon than to those of the rectum. The sigmoid has more the structure and function of the colon; the structure of the rectum is simpler and similar to that of an excretory tract. Viewed endoscopically, the rectum is paler, smooth and large in caliber, the sigmoid is deeper in color, velvety, and narrow. The rectosigmoidal reflex operates at the location that joins the sigmoid with the upper end of the rectum, and operates without marked sphincteric muscular control, like the ilcocecal valve. Defecation is brought about by tension in the sigmoid overcoming the rectosigmoidal area, contracture of the abdominal and pelvic musculature and relaxation of the anal sphincters. Normally the rectum is empty of feces.

Errors in the defecation mechanism of sigmoid function are responsible for more constipation than any other cause and its main cause is a chronic sigmoiditis. Such rectums contain feces, the rectosigmoidal region is chronically relaxed or spastic, the sigmoid is deficient in expulsive power, and there is a lack of the feeling of satiety which should follow a complete emptying of the sigmoid. Much attention has been paid to colonic stasis, spasms, and atony as causes for constipation, and too little to the sigmoid itself. Often local treatments to the sigmoid will cure the symptoms of constipation far better than diets, laxatives, and purgatives.

Often it is difficult to judge whether a chronic biotoxic condition of the colon is responsible for the sigmoiditis in a reactionary pathology way, or that cytologic damage in the sigmoid mucosa is secondary to sapremic absorption of material of long stagnation in the sigmoid. Both of these factors commonly operate, the first being the more significant, and more particularly the producer of the constipation.

Pelvic, abdominal, and back pain and distress are common symptoms of sigmoiditis, usually accompanied by constipation, and often presenting tenderness to pressure and distinct stiffening of the sigmoid. Headaches, states of malaise, and other symptoms may be present. Menstrual disturbances and those connected with internal female structures are seen at times.

Anal moisture and passing of mucus are not uncommon in chronic sigmoiditis and often are erroneously believed to be due to rectal conditions (such as procti-

tis, which usually is secondary to sigmoiditis), or to colon states in which the diagnosis of colitis is made. In such conditions, both the sigmoid and rectum often present congestion, and subcutaneous mucosal edema, this commonly making it difficult, if not impossible, to enter the lower sigmoid endoscopically.

Hemorrhage:—Quite alarming frank hemorrhage may ensue from eroded blood vessels in the sigmoid proper and minor types of bleeding are common. Varicose veins are not uncommon in sigmoiditis. One here must always keep in mind the more common causes of internal hemorrhoids and carcinoma.

Polyps:—Small polyps in the sigmoid are second in frequency to those in the colon, and are as common as those found in the rectum. These have importance in the development of carcinoma so often found in the sigmoid, and they are produced by chronic sigmoiditis. They may occur even without ulceration, such as, in cases of nonspecific ulcerative colitis.

Ulcerative Colitis:—The vast majority (90 per cent) of instances of the so-called nonspecific ulcerative colitis begins as sigmoiditis or proctosigmoiditis and subsequently involves the colon. Preventive medicine calls for diagnosing and treating sigmoiditis to prevent this serious disease. Often the treatment of sigmoiditis will markedly benefit a not too late instance of ulcerative colitis.

Diarrhea:—Soft, mushy, acid types of stools may occur over weeks of time, the hypersensitive sigmoid often being stimulated by foods. A short-spelled diarrhea may take place followed by pain in the sigmoid for weeks. Whether these are due to chilling, infection, or allergy is not clear. But such cases are often accompanied by chronic sigmoiditis.

Pruritus Ani and Dermatologic Conditions:—Anal itching, both transitory and intractable, may be due to sigmoiditis. Of course there are other reasons for intractable pruritus ani, but this one must be thought of also. Small and large areas of perianal erythema, with and without vesiculation, may be encountered. These are often of questionable origin but generally they are due to sigmoiditis.

Diagnosis

The diagnosis can best be made by sigmoidoscopy, which is not merely proctoscopy, because, not only the rectum, but the interior of the sigmoid must be visualized. Three things are essential for this purpose:

(1) The sigmoid must be empty. This is best accomplished by a dose of castor oil the night before, or some type of a stimulating enema an hour or two before the examination is made (soapsuds or an Epsom salts enema is best for this). In some instances both are employed.

(2) The position accomplished by the Hanes table is best. In the absence of this, the lower extremities on a bed, with the elbows on the floor, would answer. The knee-shoulder position, because of spinal twist, sometimes renders finding the entrance into the sigmoid difficult. The knee-both elbows close to the knees is most satisfactory because then the spine is straight. The Sims position, with the

hips raised, is often unsatisfactory for sigmoidoscopy but perfectly practical for only a rectal examination. Because of the difficulty of finding the narrow opening and the distress at times when the sigmoid is entered, the Hanes table, which prevents movement, soiling, and the dropping back of the sigmoid, is much to be preferred.

(3) A proper instrument and proper technic of passing it is essential. The average proctoscope is too short and its caliber too large. The rectum from sigmoid to anus is about 7 inches (18 cm.) in length, which is about the length of a proctoscope. For advancing into the sigmoid several more inches are necessary. Thus the instrument should be at least 12 inches (30 cm.), and one 16 inches (40 cm.) is to be preferred to the latter. The average proctosigmoidoscope is not smaller than ⅝ of an inch (1.5 cm.) in diameter, and some of them are larger. Such an instrument (even with experience) would permit satisfactory sigmoidoscopy in only about 40 per cent of patients. Therefore, a smaller caliber tube should be employed. The one recommended (which is also practical for proctoscopy) is half an inch (0.8 cm.) in caliber, and this permits of sigmoid observation in 87 per cent of instances at the time of the first examination. An inflation bulb attachment is rarely necessary although occasionally desirable.

The anal canal and instrument should be greased with vaseline rather than with lubricating jelly. The tube should be warmed, the tip passed into the lower rectum, the obturator withdrawn, and the tube advanced up the lumen under direct vision. Time, patience, and consideration of the patient's distress are essential. After sufficient experience, it rarely takes much more than five minutes to make a satisfactory examination of the rectum and sigmoid. When the tip of the tube reaches the upper rectum, usually its advance is blocked. One then searches for the junction of the sigmoid with the rectum. When this is patulous and straight ahead, or slightly to the left, the opening is observed quickly. In many instances, however, the junction is more to the left side, or it is situated under one or between two folds of mucosa and thus easily escapes observation. If the tip of the instrument has rounded shoulders instead of a sharp edge, one can safely press around until the sigmoidal opening is located. Occasionally, the rectosigmoidal junction is held rather firmly closed by spasm. This is seen mostly in instances of spastic colon and spasmophilic and hypersensitive individuals. A pledget of cotton soaked in saturated solution of magnesium sulfate held against it for half a minute will cause it to relax. The sigmoid should be entered slowly because, as a rule, there is considerable distress, desire for defecation, or a spasm is set up. As one advances the instrument, the sensation is that the sigmoid seems to strip down on the tube. If possible at least 5 inches of the sigmoid should be visualized, and with a long enough instrument 8 to 12 inches of the interior of the sigmoid may be seen. A few puffs of air would assist if the sigmoid seems stuck together.

In chronic sigmoiditis the mucosa may appear thickened, deepened in color, and the lumen contracted. Such a mucosa, being friable, may bleed easily. On the

other hand, the mucosa may be paler than normal, appear thinned out, and the lumen larger. In the first instance the circular fibres of the sigmoid may be spastic and difficult to enter, and the examination may be distressing; or it may be patulous and offer no resistance, making the examination quite painless. Microscopic examination of the sigmoid in such cases would show degenerative changes in the ganglionic cells, thinning of the musculature, obliteration of the arterioles and venules with detachment, and lyses in the epithelial and somatic cells. Superficial small ulcers, stercoral in character, diverticula, polyps, and immobility from adhesions may be present. Under ideal conditions, in the last six years the author has been able to accomplish direct vision of 102 polyps, tumor in 51 out of 207 instances of carcinoma of the sigmoid, 39 sites from which massive hemorrhage have come, the pocket mouths in 41 instances of diverticula, 67 instances of ulcers, 51 of varicose veins, and the easy diagnosis of practically all of the cases of sigmoiditis, both chronic and subacute. In acute sigmoiditis with diarrhea when the mucosa is edematous and swollen and pain and distress are present, direct sigmoidoscopy may not be possible. In the beginning one is not so successful with these examinations. With experience, this is overcome, and examinations are far less distressing to the patient.

The sigmoid can also be examined by x-ray. In addition to the different lesions best diagnosed in this way cancer, stricture, pelvic-brim adhesions, etc., dilated and spastic states, reduplications and redundancies may be included. After the barium enema, films should be made at once and these should be anterior-posterior and oblique, so as to note the back wall of the rectum and sigmoid. Rugal pattern films are unsatisfactory for diagnosis. Irregular serrations and definite spasms are characteristic of chronic sigmoiditis. Such irritative states are the earlier manifestations, definite atony being late findings, but sigmoiditis may exist without either of these. Therefore direct sigmoidoscopy is best for the diagnosis although the x-ray should not be eliminated in the diagnosis of all sigmoidal lesions. In the female an angulated or gnarled-up looking sigmoid may be noted. For a complete examination a digital examination should precede the rectal and sigmoidal examinations. Often a carcinoma of the sigmoid, or one growing in the sulcus above one of the rectal valves may be felt and not be visualized or even noted by x-ray. It is not uncommon to note a stiffened sigmoid on palpable examination of the lower left abdomen. This usually can be felt as a narrow sausage coursing upwards from Poupart's ligament. It usually is freely moveable and can be rolled under the fingers and often is tender to direct pressure. One must be sure here that the sigmoid is empty of feces and that amebiasis does not exist; they both give the same findings.

Treatment

The successful treatment of chronic sigmoiditis is simple. The items in this are:

1. The use of hemicellulose additions to the diet or hydroscopic substances (agar, plantago, etc.) to keep the stool from inspissating, thus overcoming constipation. Mineral oil may be used. Laxative and purgative drugs and salines should never be used. A normal saline cleansing enema or glycerine suppository occasionally is much preferred if the diet and specific treatments do not succeed in bringing about one or two daily movements. If the stools are acid, the basic diet should be high in protein, low in fat, and only 3 or 5 per cent vegetables; if alkaline, a full vegetable and fat diet with very limited proteins of not more than 100 gm. a day. Where a definite biotoxic intestinal state exists, attention to this may be in order. This may require special diets, vaccines and the rectal bacteriophage instillates. Those of the author are described in the Review of Gastroenterology (Sept., Oct., Nov., Dec., 1949).

2. The special treatment consists of two parts: (a) the rectal instillation of from 2 to 6 ounces (60 to 180 cc.) of the following: iodoform, 2 drams (8.0 gm.); bismuth subnitrate, 4 oz.; cotton-seed oil, ½ pint (500 cc.) and (120.0 gm.), cod liver oil, ½ pint (500 cc.). This is put in evenings before retiring and if necessary the quantity is lowered so it does not act as an enema and is retained during the night. (b) In the morning, a small retention enema of 6 oz. (180 cc.) is taken and held as long as possible in which is dissolved a teaspoonful (4 cc.) of ichthyol and the same quantity of fluid extract of hydrastis. Since the patients conduct these injections, it serves convenience to have them done with a 6 or 4-oz. syringe, or rubber hand bulb (infants' syringe) with perhaps a No. 26 rectal tube. These treatments are lessened as the case responds, being taken less frequently and modified as to one or the other. In the more serious states the oil mixture is best; in the lesser types or average instance of sigmoiditis, the ichthyol-hydrastis is to be preferred. This, if used alone, can be instilled before retiring in amounts that would be retained. Treatments should be kept up for weeks because chronic sigmoiditis responds slowly to treatment, and occasional observation of the sigmoid is desirable to note modifications of treatment.

If the sigmoid is tender or diverticulitis exists, rest, local heat, or short-wave treatments are helpful. In marked spasm atropine or belladonna up to physiologic doses may be useful. In obstruction, perforation, sinus formation, malignant disease, pelvic-brim adhesions, recurrent diverticulitis, and occasionally in marked redundancy with twisting, surgery might be in order. In the average case of sigmoiditis the medical treatment is satisfactory if the local treatments are kept up long enough.

Conclusions

Chronic sigmoiditis is a common clinical condition which usually escapes pointed attention. Its recognition and treatment accomplish the handling of some of the cases which heretofore had not been explained. As a condition it is easily diagnosed and can be satisfactorily treated medically.

NEWER PROCTOLOGIC TECHNICS*

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Introduction

In the presentation of this film† I wish to stress, as I have in all previous writings and studies, that *ambulatory proctology is not injection proctology*. Ambulatory proctology encompasses the entire field of proctology. It is surgical proctology where surgery is indicated—as it is in most cases. The proctologist who utilizes injection therapy exclusively is an injection proctologist, and not an ambulatory proctologist. Surgical technics employed in ambulatory proctology do not differ in detail from those employed in the care of the hospitalized patient. There is a difference merely in the philosophy of the surgery, a difference in the understanding and application of the basic physiology.

Indeed, the gap between the ambulatory proctologist and the hospital proctologist is rapidly narrowing. Since the general surgeon has acquired an appreciation of the value of early ambulation, the corresponding importance of immediate ambulation in proctologic surgery is rapidly achieving its proper stature. Early ambulation is now an accepted and valued feature of general surgical management. It is rapidly becoming a major factor in the handling of proctologic patients.

Once again I must stress that the proctologist's office should be fully equipped, even as is the hospital operating room. Indeed, for the surgical technics required of the proctologist, his office should be even better equipped. As I have stated in my text, "Ambulatory Proctology", the proctologist's office that is so equipped is, in fact, an operating room. With proper assistance, meticulous attention to technical details, and good judgment, the proctologic patient is much happier, and demonstrates more rapid healing, if operated upon in the proctologist's office.

The fear of the hospital operating room is eliminated. The impersonal ministrations of the hospital attendant who shaves the patient, the other attendant who injects analgesic and hypnotic medications in the patient's muscles, the interminable and frightening ride on a stretcher down the "miles" of hospital corridors and the curious stares of strangers in hospital elevators, the cold and impersonal intensity of a hospital operating room atmosphere—with its array of gleaming instruments, its odor of ether and other anesthetic agents, and the white garbed attendants,—all of these emotionally disturbing and shocking factors are eliminated. Psychological shock does not occur when the patient is at ease in the proctologist's office, chatting during the surgery, listening to a radio or looking at television.

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*Presented before the meeting of the International Academy of Proctology, Atlantic City, N. J., June 10, 1949.

†Kodachrome film studies of proctologic surgery with immediate ambulation.

The absence of postoperative respiratory, circulatory, gastrointestinal and genitourinary complications need not be stressed. They are well known as a consequence of the general literature that has developed. The general surgeon has been quick to recognize the importance of the improved physiology resulting from early ambulation. The average proctologist should now immediately accept and act upon these same advantages that apply to immediate ambulation.

General Technic

I need not offer details of surgery to this audience. In general, however, I do wish to stress several of the important factors of management. In my own office I employ caudal analgesia exclusively and find it very efficient. The question is asked, how often can we expect failure with caudal analgesia? The answer is that there should be no failure in the patient with a normal caudal canal. If abnormalities do prevent the entrance of the spinal needle into the caudal canal, or if the pia mater lies at so low a level that subarachnoid space injection results, failure will occur. In the patient with a normal caudal canal, however, there should be no difficulty in obtaining a complete caudal analgesia.

I prefer a single puncture technic, introducing the spinal needle through the sacral hiatus, rather than the multiple puncture technic, utilizing the sacral foramina as well. Complete analgesia results in these cases, and is of sufficiently high level to permit excision of extensive pilonidal cyst pathology, as well as the performance of all rectal surgery. Caudal analgesia requires approximately ten to twenty minutes to take effect, depending upon the rapidity of injection of the analgesic agent, and the size of the caudal canal.

I prefer the use of one and one-half per cent Metycaine, and inject very slowly, using an average quantity of 7 or 8 cc. for each injection (the total dosage being 30 cc.). The spinal needle remains in place, and an initial test dose of 7 cc. is injected. Motor function of the legs is tested after five minutes. If the patient, lying in a prone position, can bend his knees, raising his feet in the air, and then gradually lower the feet again to the table surface, the second dosage is injected. The second injection is of equal quantity. If there is loss of motor function, or impairment, the perianal area is tested for analgesia, and the possibility of subarachnoid space injection, with the production of saddle block analgesia, is considered. If there is evidence of developing saddle block analgesia, or any other evidence of subarachnoid space injection, no further anesthetic agent is introduced, and the spinal needle is immediately withdrawn. Under such circumstances adequate saddle block analgesia will be produced to permit surgery. I have seen only two such cases. In one of these spinal fluid could be withdrawn upon aspiration. In the other patient no spinal fluid could be withdrawn, but evidence of saddle block analgesia and loss of motor power in the legs, was rapidly evident after the test dose. No injection should be given, of course, without preceding aspiration. However, the pia mater may come down and block the bevel of the needle during aspiration, thus giving a sense of false security.

Proceeding in this fashion, a 7 or 8 cc. quantity is injected at five minute intervals, until a 30 cc. total dosage is introduced.

The oil-soluble anesthetic agent may then be injected into the sphincter mechanism, the sub-mucosal area, and perianally. This injection must be made while the needle is in motion, there must be no pooling, and the dosage will vary, of course, with the pathology presented. As much as 50 cc. of oil-soluble analgesic agent has been injected in some cases of pruritus ani without harm.

The question is always asked as to the frequency of slough in such cases. Slough will not occur if the injection is made while the needle is in motion, if there is no pooling, and if the area is carefully massaged afterward. Should any area of induration be observed during the postoperative period, this area should be incised immediately. Such an occurrence will be uncommon, but a sterile abscess may follow if adequate drainage is not immediately provided.

Some proctologists have stated that they observe abscess and slough frequently after the use of oil-soluble analgesic agents. I believe that these men should abandon the technic, and be content with other measures for the relief of postoperative pain.

It is worthy of note that in pilonidal cyst surgery no oil-soluble anesthetic agent is employed, and these patients are entirely comfortable postoperatively. Where infection is present in the tissues the analgesic agent is again eliminated. In most of these cases, oddly enough, there is very little postoperative discomfort. It may be that the psychologic advantages of ambulatory surgery, and the absence of hospital shock, are factors in thus minimizing postoperative discomfort. It may well be, therefore, that the dosage of long lasting anesthetics may be kept minimal in all ambulatory surgery.

I should like to speak of specific pathology at this point. We might consider anal ulcer first. The condition is very frequent, and must be handled properly to prevent recurrence. Complete excision is essential, including a large triangular wedge of the contiguous perianal skin. The base of the triangular excision is external on the skin surface, approximately one inch from the anal verge. The inner angle should be well above the ulcer area, and above the involved crypt. Dissection should expose the external sphincter muscle, and the muscle should be completely incised in most cases. All overlying scar tissue should be excised. Of course the associated internal papillary hypertrophy, and external hemorrhoidal skin tag should also be excised. The use of an oil-soluble anesthetic in these cases allows for extended postoperative muscle relaxation and opportunity for complete healing. Healing must proceed from within outward, and every effort must be made to prevent closure of the external wound before the internal area is healed.

On the matter of the postoperative care of hemorrhoidal surgery, I would merely stress the necessity for frequent visits. Some patients tend to form a great deal of scar tissue. In such cases there will be a tendency toward either stenosis or stricture. The use of the long lasting oil analgesic agents allows for normal

dilatation of the relaxed outlet with the passage of each stool. However, if the patient has a marked tendency toward the development of scar tissue, digital manipulation is also required. These patients should be seen on alternate days, three times weekly. At these times the finger is introduced into the rectum, and the extent and nature of healing is observed. If adhesions form, or scar tissue develops, adequate massage or dilatation may be indicated. Complete patient cooperation is essential. If the patient does not appear regularly for such therapy and observation stenosis or stricture may develop.

At the present time I prefer the use of 5 per cent scarlet red ointment to hasten epithelialization and healing in all rectal and pilonidal cyst surgery. The great defect of this preparation is its staining quality. However, this is a small price to pay for the healing action.

I should like to speak of pilonidal cyst surgery. The details of my own cruciate excision technic have been described elsewhere. In the films you see the minimal excision required. All excision is performed under direct vision, and the extent of pathology is readily determined. A minimal amount of the surrounding normal tissue is thus excised. With proper care very few hemostats need be employed. In most cases none are required, and packing affords adequate control of bleeding.

In pilonidal cyst surgery as well as in other rectal surgery, an Oxycel packing is introduced routinely. The area of excision after removal of pilonidal pathology is always fully packed with gauze Oxycel. If desired, gauze Oxycel may be introduced into the base of the wound and the remainder of the wound packed with cotton Oxycel or with ordinary gauze squares. The area requiring most careful attention to prevent postoperative bleeding is the coccygeal angle of the wound. This area seems to be most vascular.

I do not use rectal tubes after hemorrhoidectomy or other rectal surgery. A strip of oxidized cellulose gauze is introduced into the rectum and no other packing is required.

Fistula surgery has been described in adequate detail elsewhere and these films merely demonstrate the fact that extensive excision is essential in complicated cases. Whether or not surgery is performed in one or more stages depends upon the nature of the pathology. Both internal and external openings should be excised completely. The sphincter muscle may be cut in more than one place if essential. Packing, however, should not remain between the cut muscle ends for more than twenty-four hours.

A great many questions are always asked about tattoo-neurotomy. All local pathology must be removed before a tattoo-neurotomy is considered. If excision of the local pathology relieves the pruritus no tattoo-neurotomy is required. If pruritus ani persists after all local pathology has been adequately cared for, a tattoo-neurotomy is indicated. However, there are exceptions in those cases of a psychogenic background. In such cases the tattoo-neurotomy may be employed

if the patient is informed that psychiatric consultation is also essential. Patients with a strong emotional background will always require psychiatric care. No local therapy will suffice in such cases.

I will not dwell upon the technic of tattoo-neurotomy. It is adequately illustrated in these films (and in the text). The present instrument is a modified Burgess Vibra-tool, the tip modification having been prepared for me by a local instrument maker.

I no longer employ an ointment to hold the dye on the skin. Indeed, I find that if the dye-paste is applied directly to the skin a better "take" results.

These films demonstrate the cautery striping technic for procidentia. I have found the technic to be extremely effective, and it may be performed without any anesthesia. Five per cent phenol in oil is injected into the submucosal tissue between the areas of striping. The question is asked as to the value of this technic in children. In most cases no surgical therapy is required in the prolapse of infancy and childhood. Conservative therapy is usually sufficient, and the passage of time and the development of more supportive, adult anatomy, will usually correct the condition. The cases illustrated here are all elderly patients, with marked atony of tissues.

In conclusion, I must once again stress the fact that ambulatory proctology is surgical proctology. Every patient operated leaves the operating table thirty to forty-five minutes after surgery. These patients often drive their own car home and return to their usual occupation within forty-eight hours. The psychologic and physiologic advantages of immediate ambulation are very evident and of exceeding importance.

EDITORIAL

Opportunities For Training In Proctology

At the present writing the opportunities for training in proctology are so limited as to be inconsequential. Practically all of our American proctologists are self-trained. Indeed, the eminent proctologists of this country have had very little or no formal training in the specialty.

This is partially due to the fact that proctology is a very new specialty. As a recognized specialty it is less than fifty years old. Considering its relative infancy it has made tremendous progress.

It is interesting to scan briefly the early history of the development of proctology. In the eighteenth century we have Morgagni, whose name is well known to proctologists. However, his studies of general anatomy left little time for the development of the details of rectal pathology. John Hilton lived between the years 1805 and 1878. He is famous, of course, for "Hilton's white line".

Proctologic history, however, really begins with the work of Frederick Salmon. He will be remembered as the founder of St. Mark's Hospital (1835). It is well to recall that the practice of the first three years of this hospital was carried on in one small room in Aldersgate Street. Confucius has well said that the greatest journey begins with but a single step.

Frederick Salmon lived between the years 1796 and 1868, and this great hospital devoted to proctologic work is truly his monument.

Of interest in these days of extensive training and certification is that Frederick Salmon achieved his medical training at St. Bartholomew's Hospital and was elected to the Royal College of Surgeons in 1818 at the age of twenty-two. His writings illustrated his tremendous interest in rectal diseases. His text, "A Practical Treatise on Stricture of the Rectum" was published seven years before he started the charity that became St. Mark's Hospital.

Salmon named his seven-bed institution at Number 11 Aldersgate Street "The Infirmary for the Relief of the Poor Afflicted With Fistula and Other Diseases of the Rectum". At that time, even more than now, proctology was a much bedeviled surgical specialty. The general surgeons in the regular hospitals actively disapproved of Frederick Salmon and his work. Thus, Salmon carried on this work entirely by himself for twenty years.

Fortunately, by the time of his retirement in 1859, he could look back upon the tremendous development of public support, recognition by the general surgeons, and the total success of St. Mark's Hospital. The successors of Frederick Salmon were James Robert Lane and Peter Y. Gowland. After these men had served a term as head surgeon, the next head of staff was William Allingham. He served from 1864 to 1888, and during his leadership several American doctors undertook the study of proctology at St. Mark's. One of these was Dr. Joseph Mathews.

Proctology has reached its present position only because Frederick Salmon refused to follow precedent.

Dr. Mathews gave up general practice in 1877, and went to London to receive his special training at St. Mark's Hospital. At the time of his return he was practically the only surgeon in America treating proctologic diseases as a specialty. The first worthwhile text-book of proctology was published in America in 1893 authored by Dr. Mathews, (Treatise on Diseases of the Rectum, Anus and Sixmoid Flexure). Indeed, in the introduction to his text he stated that he was the pioneer rectal specialist in the United States, although he admitted that Kelsey, Andrews and Agnew, among others had recently published books on proctology.

Although Joseph M. Mathews of Louisville, Kentucky was not the first to call himself a "rectal specialist" he was the first to develop proctology through ethical organization. As the first president of The American Proctologic Society, founded in 1899, he performed a great service in the development of American proctology.

It may here be noted that in 1895, during the meeting of the American Medical Association at Baltimore, Dr. S. T. Earle, (the advocate of alcohol for sloughing-out pruritic skin), attempted to organize American proctology. A meeting was held at his home, and this meeting included Drs. S. G. Gant, J. P. Tuttle, T. C. Martin, Joseph M. Mathews, and Leon Straus. This meeting greatly impressed Dr. T. C. Martin, who was then only thirty-one years of age. However, as a graduate of a homeopathic school, The Cleveland University of Medicine and Surgery, he felt ill at ease and sought a second degree in medicine from a "regular" school, The Cleveland College of Medicine and Surgery, which had just become the Medical Department of the Ohio Wesleyan University. It is interesting to note that he joined the faculty as the Professor of Proctology, and was "graduated" from that school in 1897.

In 1899 Dr. Martin called together those interested in proctology at Columbus, Ohio, on June 6th and 7th, at the Chittenden Hotel. This was the beginning of The American Proctologic Society.

Among the other founders of The American Proctologic Society were J. Rawson Pennington of Chicago, J. P. Tuttle of New York, and S. G. Gant of New York. These men, with very little formal training, were the founders of proctology as a specialty in America.

The battle was just joined. To win official recognition of the American Medical Association required many years, and this goal was not achieved until 1916.

The importance of this early history is the very obvious observation that these men were self-trained proctologists, and deserve tremendous credit for early pioneering.

Space does not permit further development of the history of proctology at this point. A later article may be of interest to show the early history of injection therapy, its difficult development, and its final acceptance. This, however, is another chapter in the history of proctology and does not concern us at this point.

Our objectives in recounting this history have been, *first*, to illustrate the fact that proctology is a new specialty, and not yet fully recognized. *Second*, to

develop the thesis that the early proctologists were primarily self-trained, and that the major proctologists of this day have developed in the specialty practically entirely through their own efforts, and *third,* to illustrate the need for opportunities for proctologic training.

Revolutionary changes are taking place in medicine. Opportunities for individual development in this specialty will exist as long as individual initiative exists. However, the need for formalized training is becoming more and more evident.

The average medical student graduates with practically no conception of the field of proctology or its details. He is trained in hospitals having no proctologic staff, and by men who have had as little training in proctology as he himself. He enters the practice of medicine, therefore, with no understanding of proctologic technics, either diagnostic or therapeutic. His training in proctologic surgery has been completely deficient.

That is the status of the early "training" of the major proctologists of this country, including most of those who are the current leaders of proctology.

This condition should change, as all specialty training has changed. The need for formal training in proctology becomes more and more evident. Indeed, until such time as formal training is adequately established,--a period of at least another fifty years—, it will be impossible to properly accredit and certify the proctologists of this date.

Postgraduate courses in proctology are few. Those schools where they are given include: College of Medical Evangelists, Graduate School of Medicine, Los Angeles; Cook County Graduate School of Medicine, Chicago; Tufts College Medical School, Boston; Joint Committee of Postgraduate Education, Brooklyn (Medical Society of the County of Kings and Long Island College of Medicine); New York Polyclinic Medical School and Hospital, New York; New York University-Bellevue Medical Center, New York.

In 1949 there were twelve hospitals in the United States offering twenty-three assistant residencies and residencies in proctology. In 1950 this number dropped to ten hospitals, offering eighteen assistant residencies and residencies in proctology. These are: Mercy Hospital-Loyola University Clinics, Chicago; Mayo Foundation, Rochester, Minnesota; Millard Fillmore Hospital, Buffalo; Youngstown Hospital, Youngstown, Ohio; Allentown Hospital, Allentown, Pennsylvania; Jefferson Medical College Hospital, Philadelphia; Temple University Hospital, Philadelphia; Pittsburgh Medical Center, Pittsburgh; Reading Hospital, Reading, Pennsylvania; Milwaukee County Hospital, Milwaukee.

We thus have an interesting state of affairs in the development of the specialty of proctology.

This specialty is in its infancy, and the leaders of the specialty are men who have demonstrated individual initiative and ingenuity in developing themselves as specialists. Certification is, of necessity, difficult,—if not impossible—, on any

logical basis, inasmuch as there have been few opportunities for training in proctology, and the majority of proctologists of this date are self-trained. Accrediting must thus be on a purely arbitrary and personal basis.

The need for more opportunities for assistant residencies and residencies in proctology, and better postgraduate courses in proctology, becomes self-evident.

ALFRED J. CANTOR

NEWS NOTES

Second Annual Convention of the International Academy of Proctology

The Second Annual Convention of the International Academy of Proctology will be held at the Bellevue Hotel in San Francisco, Calif., on Friday and Saturday, June 23, 24, 1950, immediately preceding the meeting of the American Medical Association.

The complete program appears elsewhere in this issue of the American Journal of Proctology.

Members of the medical profession are cordially invited to attend.

Annual Meeting of the International Academy of Proctology

The Annual Meeting of the International Academy of Proctology will take place on Friday morning, June 23, 1950 at 10:00 a.m. at the Bellevue Hotel in San Francisco, Calif.

All those affiliated with the Academy are urged to attend this business meeting.

Convocation Ceremony

The Convocation Ceremony, at which Fellowship certificates will be awarded, is to be held at the Bellevue Hotel in San Francisco, Calif. on Friday morning, June 23, 1950 at 10:30 a.m. immediately following the Annual Meeting of the Academy.

The medical profession and guests are cordially invited to attend the ceremony.

Annual Meeting of the Board of Trustees

The Annual Meeting of the Board of Trustees of the International Academy of Proctology will be held on Friday morning, June 23, 1950 at 11:00 a.m. at the Bellevue Hotel in San Francisco, Calif.

Election of officers for the year 1950-1951 will take place at this meeting.

Course in Postgraduate Gastroenterology

The National Gastroenterological Association announces that its course in Postgraduate Gastroenterology will be given at the Hotel Statler in New York City on October 12, 13, 14, 1950.

The course, which will again be under the personal direction of Dr. Owen H. Wangensteen, Professor of Surgery, University of Minnesota Medical School, will cover the following subjects: Diseases of the Mouth; Diseases of the Esophagus; Peptic Ulcer; Diseases of the Stomach; Diseases of the Pancreas; Cholecystic Disease; Psychosomatic Aspects of Gastrointestinal Disease; Diseases of the Liver; Diseases of the Colon and Rectum and other miscellaneous subjects including Pathology and Physiology, Radiology, Gastroscopy, etc.

The distinguished faculty for the Course has been chosen from medical schools in New York City as well as out of town.

For further information and enrollment write to the National Gastroenterological Association, Dept. GSJ, 1819 Broadway, New York 23, N. Y.

ABSTRACTS

SELECTION OF OPERATION FOR CARCINOMA OF LOWER PORTION OF THE COLON AND RECTUM. Charles W. Mayo. New York State J. Med. 49:2919-2923, (Dec. 15), 1949.

Mayo prepares all patients with carcinoma of the lower colon and rectum, mentally and physically, for the establishment of a permanent colonic stoma.

For lesions of the first 5 cm. above the dentate margin, he creates a permanent stoma and performs an extensive resection, because such carcinomas spread not only upward but also laterally along the lymphatic vessels. Retrograde spread is a late sequela, due to lymphatic blockage above and to the sides. He does a one-stage combined abdominoperineal resection, as this operation has as low a mortality rate and can be as radical as any other and in addition the time the malignant lesion remains in the body is shortened and the morbidity and expense to the patient is less.

In lesions 6 to 11 cm. above the dentate margin, if, after the lesion has been mobilized, the rectum and its posterior and lateral tissues can be resected at least 2 cm. below the lower border of the lesion and the remaining portion of the sigmoid can be accurately anastomosed without tension, Mayo performs an end-to-end sigmoidorectostomy. If the colon has been well prepared by irrigations and chemical agents, no clamps are used in the anastomosis. Interrupted cotton sutures are employed in the outer coats of the bowel and a continuous catgut suture in the mucosa. Drains are brought out through the lower angle of the low left rectus incision, and the anastomosis is extraperitonealized. After the abdomen has been closed, the anus is dilated, but no tube is inserted in the rectum, no colostomy is performed and the Miller-Abbott tube is rarely employed. Over three-fourths of the patients so treated are able to leave the hospital within two weeks.

For lesions 11 to 16 cm. above the dentate margin, with few exceptions, Mayo does a low anterior resection with sigmoidorectostomy.

In lesions higher up, after preparing the colon and the use of antibiotic agents, resection and primary anastomosis are performed, but should include wide resection of the mesentery with removal of tissue well above and below the lesion, excision of the superior hemorrhoidal vessels after high ligation and an accurate anastomosis without tension. This is followed by a thorough dilatation of the anus.

HAROLD NEIFELD

RETROGRADE SPREAD OF CARCINOMA IN THE RECTUM AND RECTO-SIGMOID. James F. Connell, Jr. and Antonio Rottino. Arch. Surg. 59:807-13, (Oct.), 1949.

By retrograde spread is meant the spreading of the tumor from the primary lesion down, in the direction of the anal canal, within the wall of the bowel, or into immediately adjacent lymph nodes. Knowledge concerning frequency, extent and nature of spread is incomplete. It is questionable whether increased incidence of recurrence in less radically treated patients may not be due to pre-operative retrograde spread from the portion removed to the portion of bowel remaining.

A serial section method embracing the entire circumference of the wall of the bowel was used to secure a more complete examination. This would seem to be a more satisfactory method than those previously used.

Nine specimens were studied. All were ulcerated cylindric cell adenocarcinomas. Five specimens did not show retrograde spread. While the number of cases studied is small, it is indicative of the percentage of retrograde spread in moderately advanced carcinoma. The study of a large series of specimens by this method would be of interesting significance.

LEON HIRSH

HIRSCHSPRUNG'S DISEASE: A NEW CONCEPT OF THE ETIOLOGY. Orvar Swenson, Harold F. Rheinlander and Israel Diamond. New England J. Med. 240:551-556, (Oct. 13), 1949.

Swenson, Rheinlander and Diamond present a new approach to the etiology and treatment of Hirschsprung's disease. In the past the emphasis has been directed to the dilated and atrophied colon. It is the authors' contention that the primary lesion rests in the distal, nondilated segment, despite the fact that grossly this area appears normal. They have demonstrated in control patients that groups of strong peristaltic waves progress from the transverse colon to the anus. In 8 patients with Hirschsprung's disease they have recorded strong peristaltic waves in the dilated and hypertrophied colon. In 5 patients progression of the peristaltic waves along the enlarged segment was evident. In none of the 8 patients with Hirschsprung's disease did the peristalsis enter the narrow distal segment, which did exhibit increased tonus. They believe that the absence of normal propulsive waves in the rectum and rectosigmoid constitutes a physiologic defect that results in chronic obstruction. This malfunctioning segment is identical with the narrow, irregular bowel visualized by roentgenograms. There appears to be correlation between the absence of ganglion cells in areas of the rectosigmoid and the physiologic defect. Removal of the narrow, irregular rectum and rectosigmoid by a special surgical technic in 34 patients has resulted in 1 postoperative death and what appears to be complete cures in 33 patients. As early as three months postoperatively the colon is essentially normal by barium-enema examination. In 3 patients they have demonstrated normal colonic peristalsis postoperatively by balloon studies.

NATHAN BRODY

TRANSVERSE COLOSTOMY VERSUS CECOSTOMY FOR ACUTELY OBSTRUCTING LESIONS IN THE LEFT HALF OF THE COLON. Chas. E. Rea, M. W. von Amerongen, E. W. Sickles and M. Windmiller. Minnesota Med. 22:10, 1949.

Comparative statistics from St. Paul hospitals from 1938 to 1948 show a mortality of 36 per cent in 81 cecostomies, and 18 per cent in 35 transverse colostomies for acute obstruction of the left colon. In previous publications mortality for cecostomy varies from no deaths in Rankin's 1936 series of 13 cases done for all types of lesion, through a mortality of 12.9 per cent in the 250 malignant lesions reported by Allen in 1941, to a high of 71.4 per cent in Collor's 12 malignant obstructive lesions during 1944.

The McNealy-Lichtenstein technic for cecostomy was generally preferred.

In the St. Paul series the mortality (27 per cent) for cecostomy was the same as that for transverse colostomy in obstructive, operable, malignant lesions of the left colon.

"It is —easier (for the average surgeon) to deliver the transverse colon" and "the operation can be done more aseptically". "Through a high transverse right rectus incision" a loop of transverse colon is fixed by a glass rod through the mesacolon, "needled in two hours", and opened after "a day or two" to divert the fecal stream and avoid peritoneal contamination.

The authors conclude: "The safest operation for decompressing the distal half of the colon is transverse colostomy". A. H. BORGERSON

CONSERVATIVE SURGICAL MANAGEMENT FOR CERTAIN RECTAL ADENOMAS SHOWING MALIGNANT CHANGE. Samuel M'Lanahan, Glenn P. Grove and Richard F. Kiefer. J.A.M.A. 141:822-825, (Nov. 19), 1949.

Polypoid lesions of the lower portion of the colon are of especial interest because of their relative frequency, their close relation to carcinoma and the relative ease with which diagnosis can be made and treatment given.

In a study of 38 patients, who had had adenomatous polyps of the rectum, with malignant changes removed, the criteria for malignancy were: (pathologically) changes in the cells, alteration in the glandular structure and occasionally the tendency to invade.

Twenty-eight remained cured during the period of observation (two years). In five others simple recurrences developed (benign). Another group of five patients developed adenocarcinomatous recurrences.

Fifteen of the group showed invasive qualities: progression of the malignant cells to the stalk or base of the growth, or even into the bowel wall. The five recurrences of adenocarcinoma were all of this group.

Multiple recurrences constitute a poor prognosis, even though the recurrence may not demonstrate adenocarcinoma, and may be an indication for radical surgical measures.

The patient with an adenoma of the colon has a predisposition to the formation of these growths and should have periodic examinations for new lesions. About 60 per cent of colonic adenomas can be seen through a 25 cm. sigmoidoscope. Above this level, the air contrast barium enema must be employed for diagnosis.

Immediate radical resection for malignant growths in the bowel wall is the only sound treatment.

The study of this group of patients indicates the value of the wider use of surgical excision of adenomas of the lower bowel, so that the polyp is out, the pathologist has an adequate specimen and the prognosis can be determined and controlled. HAROLD NEIFELD

CANCER OF THE LOWER LARGE BOWEL. Isaac M. Webber. New England J. Med. 240:127-130, (Jan. 27), 1949.

Webber presents an investigation of facts pertinent to the care of 100 consecutive patients with cancer of the large bowel, and offers an appraisal of the therapeutic effort employed in their management. He reiterates the necessity of a thorough rectal examination, including palpation, and the use of the sigmoidoscope in those cases presenting complaints referrable to the terminal segments of the large intestine. Results obtained in terms of hospital deaths and survival rates are recorded; fatal and significant nonfatal complications are enumerated. Success obtained from a second resection in a very limited number of patients with recurrent or new cancer is noted. Although insufficient time has elapsed since treatment of the last patient to permit determination of the final figures on five-year survivals, attention is called to the fact that the trend of the immediate postoperative hospital death rate is definitely downward. NATHAN BRODY

BOOK REVIEWS

THE ATLAS OF THE BLOOD AND BONE MARROW. R. Philip Custer, M.D., Director, Laboratories of the Presbyterian Hospital in Philadelphia; Assistant Professor of Pathology, The University of Pennsylvania School of Medicine; Consultant to the Armed Forces Institute of Pathology. W. B. Saunders Co., Philadelphia and London, 1949. Price $15.00.

This text is well written and well illustrated. It should be of value to the general practitioner as well as to the specialist.

It is essential that every physician understand the normal physiology and the deviations from normal of blood formation and destruction.

The first section of the book deals with the development and normal function of the hematopoietic tissues. The next section describes, chiefly by illustration, the changes in the peripheral blood and bone marrow in primary diseases of the blood forming organs, and in other conditions in which both blood and bone marrow are secondarily involved.

The primary aim of the book is to promote accuracy in diagnosis. The author succeeds in establishing this aim. The photomicrographs of sectioned marrow are particularly worthy of note. The book will be particularly useful to the hematologist and pathologist, but should find a place of value in the library of all well-rounded practitioners.

CURRENT THERAPY 1950: Latest Approved Methods of Treatment for the Practicing Physician. Editor: Howard F. Conn, M.D. Consulting Editors: M. Edward Davis, Vincent J. Derbes, Garfield G. Duncan, Hugh J. Jewett, William J. Kerr, Perrin H. Long, H. Houston Merritt, Paul A. O'Leary, Walter L. Palmer, Hobart A. Reimann, Cyrus C. Sturgis, Robert H. Williams. 736 pages. W. B. Saunders Company, Philadelphia and London, 1950. Price $10.00.

This is the second in a series of volumes intended to bring authoritative information on the latest therapy to the practicing physician. The consultants and contributors are eminent in their own fields, and each article presents the current therapy employed by each contributor.

1950 Current Therapy includes sixteen new subjects and a new section on Diseases of the Locomotor System. Chemotherapy has been brought up to date.

The proctologist will find an interesting section on intestinal parasites, a well written and extensive section on therapy of chronic ulcerative colitis, constipation and diarrhea, diverticula, fissure-in-ano and fistula-in-ano, as well as hemorrhoids.

Primary megacolon is well described. A brief discussion of pruritus-ani is also included.

The venereal diseases are well covered, including lymphogranuloma venereum and granuloma inguinale. It is interesting to note that there is a section on hydradenitis suppurativa, although very brief indeed, and no mention is made of the occurrence of this condition in the perianal area.

All material is well presented in brief and succinct form. This text can be recommended to the general practitioner, the general surgeon and the proctologist.

SURGICAL TECHNIQUE AND PRINCIPLES OF OPERATIVE SURGERY. A. V. Partipilo, M.D., F.A.C.S., Associate Clinical Professor of Surgery, The Stritch School of Medicine of Loyola University; Senior Attending Surgeon, Columbus Hospital; Senior Attending Surgeon, St. Mary's Hospital; Attending Surgeon, Mercy Hospital; Consulting Surgeon, Chicago State Hospital; Consulting Surgeon, Cuneo Memorial Hospital, Chicago, Ill. Fourth edition, 547 figures containing 997 illustrations, 676 pages. Lea & Febiger, Philadelphia, 1949. Price $15.00.

This text is well written and well illustrated. There are many original step-by-step line drawings, with detailed descriptions of surgical technics. The fourth edition contains over one hundred new illustrations and new material on special surgery.

Of particular interest to the proctologist is the fact that the section on surgery of the colon and rectum have been re-written. The emphasis on pre- and postoperative treatment is also worthy of note.

The sections on surgery of the large bowel and anorectal diseases are written by Clement L. Martin. These sections, of course, will be of particular interest and value to the proctologist.

The colon and anorectal chapters are well written and well illustrated. They are, of necessity, relatively brief but of definite value.

The technics described represent the methods of the authors.

This text may be recommended chiefly to the general surgeon and to students of surgical technic.

ATLAS OF SURGICAL OPERATIONS. Elliott C. Cutler, Late Moseley Professor of Surgery, Harvard University, and Chief Surgeon of the Peter Ben Brigham Hospital; and Robert M. Zollinger, Professor and Chairman of the Department of Surgery, Ohio State University College of Medicine, and Chief of the Surgical Service, University Hospitals, Ohio State University. Second Edition; 225 pages. The Macmillan Company, New York, 1949. Price $10.00.

The second edition of this volume maintains the high standards of the first edition and extends its usefulness. The ten year interval between publication of the first and second edition has seen many remarkable advances in surgery, particularly in preoperative and postoperative care.

Students of surgical technic will benefit particularly from the increased detail found in the second edition. This volume contains step-by-step illustrations of surgical procedure, not only in standard operations, but in certain of the emergency procedures of general surgery. Thirty new procedures are added to this edition, including vagotomy. Revision has extended to a very large number of plates, and the artist's skill of illustration is well demonstrated throughout.

For the proctologist there are plates demonstrating: The surgical anatomy of the large intestine; cecostomy-colostomy; transverse colostomy; closure of colostomy; colectomy, right; colectomy, left—end-to-end anastomosis; colectomy, left Mikulicz procedure; abdominoperineal resection (6 plates); anterior resection of rectosigmoid; injection and excision of hemorrhoids; drainage of ischiorectal abscess—excision of fistula-in-ano and excision of pilonidal sinus.

The technics illustrated for anorectal surgery illustrate the preferences of the authors. They will be entirely satisfactory in most cases. However, the excision technic for chronic fissure (chronic anal ulcer) would probably be improved if a wide excision were performed, a triangular wedge of verge skin being removed in association with the ulcer area, the base of the triangle being external. This would permit more certain healing from within outward.

The text should be of value to every general and specialty surgeon.

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